

IN THE CLAIMS

1. (currently amended) A combined in-circuit emulation system and programmer, comprising:

a pod carrying an emulation microcontroller and a socket for programming another microcontroller;

a base station having virtual microcontroller that operates in lock-step synchronization with the emulation microcontroller during emulation operations;

an interface connecting the pod to the base station, the interface having a dock signal line, a pair of data signal lines, a reset line and a power line, wherein the reset line is connected to transmit a reset signal to the emulation microcontroller, but is not connected to without transmitting the reset signal to the socket; and

wherein the emulation microcontroller can be placed in a sleep mode so that a microcontroller residing in the socket can be programmed by receiving programming information from the base station without the programming being disturbed by actions of the emulation microcontroller.

2. (original) The apparatus according to claim 1, wherein the programming instructions are sent to the microcontroller residing in the socket using one of the data lines for clock and another of the data lines for the programming instructions.

3. (original) The apparatus according to claim 1, wherein the data lines are used for carrying out communications between the microcontroller and the virtual microcontroller during emulation operations.
4. (original) The apparatus according to claim 1, wherein the interface is used for communication between the virtual microcontroller and the emulation microcontroller during emulation operations; and wherein the interface is used for programming the microcontroller in the socket during programming operations.
5. (original) The apparatus according to claim 1, wherein the data lines are connected to terminals of the socket corresponding to programming inputs for the microcontroller residing in the socket.
6. (original) The apparatus according to claim 1, wherein the interface is carried over a category 5 cable.
7. (currently amended) A pod assembly for use with a combined In-Circuit Emulation system and device programmer, comprising:
 - a device under test;
 - a programming socket for carrying a device to be programmed;

an interface configured to couple programming code to the device to be programmed and comprising connecting data lines to programming inputs of the device to be programmed and to the device under test; and

wherein the data lines carry programming instructions to the device to be programmed during a programming operation, and wherein the data lines are used for communication with the device under test during emulation operations.

8. (currently amended) The apparatus according to claim 7, wherein the interface further comprises

a reset line connected to transmit a reset signal to the device under test ~~but not connected to without transmitting the reset signal to the programming~~ socket.

9. (original) The apparatus according to claim 7, wherein the interface is carried over a category 5 cable.

10. (currently amended) The apparatus according to claim 7, wherein the interface further comprises:

a clock signal line connected to the device under test, a pair of data signal lines connected both to the socket and the device under test, a reset line and a power line; and wherein the reset line is connected to

transmit a reset signal to the device under test without transmitting the reset signal, but is not connected to
the socket.

11. (original) The apparatus according to claim 10, wherein the data lines carry both instructions and clock information during the programming operation.

12. (currently amended) The apparatus according to claim ~~1~~7, wherein the device under test comprises a microcontroller.

13. (currently amended) A method of programming a programmable device, the device residing in a socket of a pod that carries an emulation device used in emulation operations, comprising:

applying power to the pod;

sending a control signal to the pod to place the emulation device into a sleeping state by using an interface configured to couple programming code to the pod and to the programmable device; and

programming the programmable device residing in the socket while the emulation device is in the sleeping state.

14. (original) The method according to claim 13, wherein the sending comprises:

sending a reset signal to the emulation device;
applying a predetermined logic state to a data line;
holding the logic state on the data line while the reset signal is
released as an instruction to place the emulation device in a sleeping state.

15. (original) The method according to claim 13, wherein the
programming comprises sending a key code to the programmable device
within a prescribed period of time after applying the power.

16. (currently amended) The method according to claim ~~13~~15, wherein
sending the key code comprises sending the key code over a first data line of
the interface and clocking the key code into the programmable device using a
second data line of the interface to carry a clock signal.

17. (original) The method according to claim 16, wherein the first and
second data lines are used to carry data from the emulation device when the
emulation device is operating in an emulation mode.

18. (currently amended) The method according to claim 13, wherein the
programming further comprises sending program code over a first data line of
the interface and clocking the program code into the programmable device
using a second data line of the interface to carry a clock signal.

19. (original) The method according to claim 18, wherein the first and second data lines are used to carry data from the emulation device when the emulation device is operating in an emulation mode.

20. (currently amended) The method according to claim 14, wherein the interface comprises power, data and reset lines ~~are carried over an~~ interface implemented using a category 5 cable.